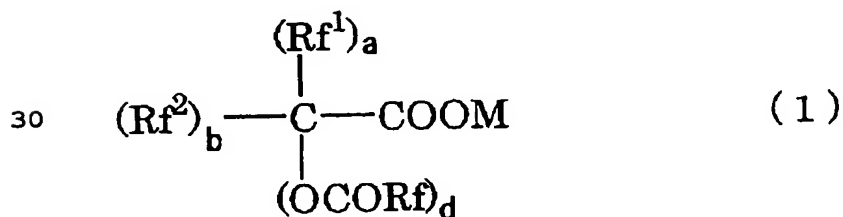


CLAIMS

1. A method of producing a fluoropolymer,
wherein polymerization using a carboxylate ester bond-
5 containing carboxylic acid derivative as a surfactant in an
aqueous medium to give the fluoropolymer is conducted,
said carboxylate ester bond-containing carboxylic acid
derivative has a carboxylate ester bond and -COOM (M
representing H, NH₄, Li, Na or K),
10 said carboxylate ester bond may optionally be substituted
by fluorine atom.
2. The method of producing a fluoropolymers according to
Claim 1,
15 wherein the carboxylate ester bond is an acyloxy group
represented by RfCOO- (Rf representing a fluoroalkyl group
containing 1 to 20 carbon atoms or an ether oxygen-
containing fluoroalkyl group containing 1 to 20 carbon
atoms) or an alkoxycarbonyl group represented by RfOCO- (Rf
20 being as defined above).
3. The method of producing a fluoropolymers according to
Claim 1 or 2,
wherein the carboxylate ester bond-containing carboxylic
25 acid derivative is a 2-acyloxycarboxylic acid derivative
represented by the general formula (1):



wherein Rf¹ and Rf² are the same or different and each
35 represents H, F, a fluoroalkyl group containing 1 to 20

carbon atoms or an ether oxygen-containing fluoroalkyl group containing 1 to 20 carbon atoms, a and b each represents an integer of 0 to 2 and d represents an integer of 1 to 3 provided that a, b and d satisfy the relation $a + b + d = 3$; Rf and M are as defined above, and Rf¹, Rf² and Rf are the same or different.

4. The method of producing a fluoropolymer according to Claim 1 or 2,

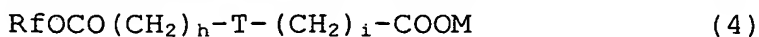
10 wherein the carboxylate ester bond-containing carboxylic acid derivative is a dicarboxylic acid half ester (A) represented by the general formula (3):



15 wherein Rf⁵ represents -C_fH_{2f}- or -C_gH_{2g-2}- (in which f represents an integer of 1 to 6 and g represents an integer of 2 to 6) and Rf and M are as defined above.

5. The method of producing a fluoropolymer according to Claim 1 or 2,

20 wherein the carboxylate ester bond-containing carboxylic acid derivative is a dicarboxylic acid half ester (B) represented by the general formula (4):



25 wherein T represents -CRf⁴=CH-, -CH=CRf⁴- or -CHRf⁴- (in which Rf⁴ represents F, a fluoroalkyl group containing 1 to 20 carbon atoms or an ether oxygen-containing fluoroalkyl group containing 1 to 20 carbon atoms), h and i are the same or different and each represents an integer of 0 to 3, and Rf and M are as defined above.

30 6. The method of producing a fluoropolymer according to Claim 1, 2, 3, 4 or 5,

wherein a 0.1% (by mass) aqueous solution of the carboxylate ester bond-containing carboxylic acid
35 derivative has a surface tension of 30 to 70 Nm/m as

measured at 25°C by Wilhelmy method.

7. The method of producing a fluoropolymer according to Claim 1, 2, 3, 4, 5 or 6,

5 wherein the carboxylate ester bond-containing carboxylic acid derivative can generate a hydrolyzate upon hydrolysis, the number of fluorine atom-bound carbon atoms in said hydrolyzate is not more than 6.

10 8. The method of producing a fluoropolymer according to Claim 7,

wherein the number of fluorine atom-bound carbon atoms is not more than 4.

15 9. The method of producing a fluoropolymer according to Claim 1, 2, 3, 4, 5, 6, 7 or 8,

wherein the carboxylate ester bond-containing carboxylic acid derivative is added at a level of 0.0001 to 15% by mass of the aqueous medium.

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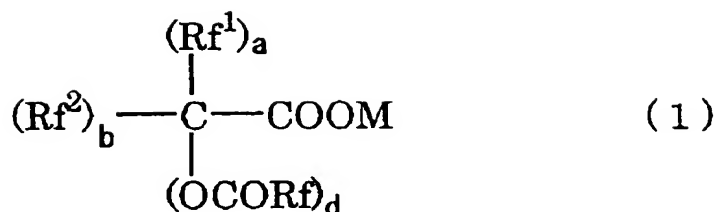
10. A fluoropolymer aqueous dispersion which comprises a particle comprising a fluoropolymer, a carboxylate ester bond-containing carboxylic acid derivative and an aqueous medium,

25 wherein said carboxylate ester bond-containing carboxylic acid derivative has a carboxylate ester bond and -COOM (M representing H, NH₄, Li, Na or K), said carboxylate ester bond may optionally be substituted by fluorine atom.

30

11. A 2-acyloxycarboxylic acid derivative which is represented by the general formula (1):

35



wherein Rf^1 and Rf^2 are the same or different and each represents H, F, a fluoroalkyl group containing 1 to 20 carbon atoms or an ether oxygen-containing fluoroalkyl group containing 1 to 20 carbon atoms, Rf represents a fluoroalkyl group containing 1 to 20 carbon atoms or an ether oxygen-containing fluoroalkyl group containing 1 to 20 carbon atoms, M represents H, NH_4 , Li, Na or K, a and b each represents an integer of 0 to 2 and d represents an integer of 1 to 3 provided that a , b and d satisfy the relation $a + b + d = 3$; Rf^1 , Rf^2 and Rf are the same or different.

12. The 2-acyloxycarboxylic acid derivative according to Claim 11,

wherein Rf^1 and Rf^2 are the same or different and each is $\text{A}(\text{CF}_2)_j(\text{CH}_2)_p-$

wherein A represents H or F, j represents an integer of 1 to 6 and p represents an integer of 0 to 3.

13. The 2-acyloxycarboxylic acid derivative according to Claim 11 or 12,

wherein Rf is

$\text{A}(\text{CF}_2)_n(\text{CH}_2)_m-$

wherein A represents H or F, n represents an integer of 1 to 4 and m represents an integer of 0 to 3, or

$\text{A}(\text{CF}_2)_q[\text{CFX}-\text{CF}_2(\text{CH}_2)_r\text{O}]_t\text{CFX}-$

wherein X represents F or CF_3 , q represents an integer of 0 to 3, r represents an integer of 0 to 2, t represents an

integer of 1 to 3 and A is as defined above.

14. The 2-acyloxycarboxylic acid derivative according to Claim 11,

wherein Rf^1 and Rf^2 are the same or different and each is

5 $A(CF_2)_u-$

wherein A represents H or F and u represents an integer of 1 to 3, and Rf is

$A(CF_2)_w(CH_2)_y-$

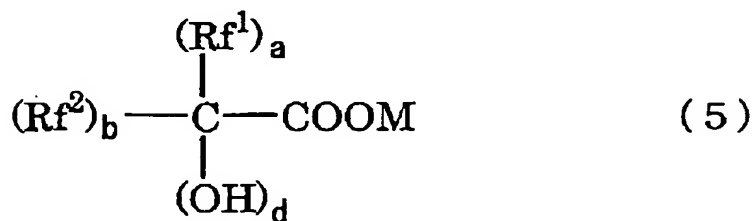
10 wherein A is as defined above, w represents an integer of 2 to 4 and y represents an integer of 0 to 1.

15. A surfactant which comprises the 2-acyloxycarboxylic acid derivative according to Claim 11, 12, 13 or 14.

16. A method of producing a 2-acyloxycarboxylic acid derivative,

which comprises producing the 2-acyloxycarboxylic acid according to Claim 11, 12, 13 or 14 by esterifying a 2-hydroxycarboxylic acid derivative represented by the

20 general formula (5):



25 wherein Rf^1 and Rf^2 are the same or different and each represents H, F, a fluoroalkyl group containing 1 to 20 carbon atoms or an ether oxygen-containing fluoroalkyl group containing 1 to 20 carbon atoms, M represents H, NH_4 , Li, Na or K, a and b each represents an integer of 0 to 2 and d represents an integer of 1 to 3 provided that a, b and d satisfy the relation $a + b + d = 3$, and an alkanoyl compound represented by the general formula (6):

35 $RfCOZ \quad (6)$

wherein Rf represents a fluoroalkyl group containing 1 to 20 carbon atoms or an ether oxygen-containing fluoroalkyl group containing 1 to 20 carbon atoms, Z represents -OM¹ or Y (M¹ representing H, NH₄, Li, Na or K and Y representing F or Cl).